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ABSTRACT

This 1979 supplemental update of "Operation Resource: Abstracts of Current Curriculum Development Activities in Industrial Arts Teacher Education" contains twenty-six two-page abstracts, each including title of activity, department/division, institution/organization, city and state, director(s) of activity, dates initiated and concluded, sponsoring/funding agent, descriptors, purposes/goals/objectives, progress to date, future plans, project publications, and sources of available information. Instructions for incorporating the abstracts and the descriptor index into the original documents are included. (LRA)

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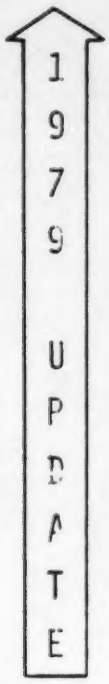
- ED179779

OPERATION RESOURCE:

ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION



Undergraduate Studies Committee
American Council on Industrial
Arts Teacher Education

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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CE 023 517

Preface

The American Council on Industrial Arts Teacher Education is pleased to continue its sponsorship of "operation resource." This is the third revision of this useful series. Users of this resource will find it very valuable as they plan and revise courses and teaching strategies. The thoughts, suggestions, and reports of successful techniques are from industrial educators who are in the classroom on a daily basis.

Appreciation is extended to the members of the Undergraduate Studies committee. These committee members were responsible for collecting, editing, and sorting the various reports which were submitted from the ACIATE membership. The 1979-80 committee members are as follows:

Glenn E. Bettis . . . . . .East Tennessee State University
E. Keith Blankenbaker, Committee Chairman . .The Ohio State University
Marc A. Caron . . . . . .Norfolk State College
Everett N. Israel . . . . . .Illinois State University
Donald E. Moon . . . . . .Western Washington University
Jack W. Wescott . . . . . .Fitchburg State College

Individuals who contributed to "operation resource" receive special thanks from the ACIATE Executive Committee. A document of this kind cannot be successful unless it is supported by individuals who will make use of it. Anyone wishing to submit an abstract for possible inclusion in "operation resource" are encouraged to do so. Send the abstract directly to the committee chairperson.

Ervin A. Dennis
ACIATE President, 1978-1980

M E M O R A N D U M

TO: Subscriber's To Operation Resource Manual

FROM: Undergraduate Studies Committee, A.C.I.A.T.E.

SUBJECT: Use of 1979 Update

DATE: July, 1979

The enclosed 1979 update of your Operation Resource Manual should be used in the following manner to insure a more complete and useful document:

1. Replace the old cover sheet with the new cover sheet.

2. Replace pages ii and iii with the updated sheets.

3. Remove the old pages 6-12 and replace with the new pages numbered 6-15.

4. Insert the new abstracts at the back of the document. (Note: The last page of the 1977 update was OR-77-115; therefore, the next page should be OR-78-116.)

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SECTION 3

ABSTRACTS

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Instructional Filmstrips - Veneering

Department / Division Industrial Education

Institution / Organization Brigham Young University

City, State Provo, Utah Zip Code 84602

Director(s) of Activity William E. McKell Title

Date Initiated Date Concluded 1976

Sponsor / Funding Agent Brigham Young University

Descriptors:

Unit Laboratory

Course Unit

Higher Education

Senior High School

Purpose / Goals / Objectives of Activity:

Prepare filmstrips about veneering

Progress to Date:

Five filmstrips titled: 1) Painting Pictures with Wood, 2) Portrait Painting with Wood, 3) Diamond Matching, 4) Geometric Marquetry, and 5) Diamond Porquetry have been developed.

Progress to Date (continued):

completed

Plans For the Future:

open

Project Publications:

Masters Thesis or Field Project

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: _____

through Brigham Young University Library - Harold B. Lee Library

Person to Contact Donald K. Nelson Office Phone 374-1211 ext. 2905

Address 3080 HBLL, Brigham Young University

Provo, Utah 84602

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Design and Construction of a Low Budget Shop Built Vacuum Forming Machine

Department / Division: Industrial Education

Institution / Organization: Brigham Young University

City, State: Provo, Utah Zip Code: 84602

Director(s) of Activity: O. Lee Walker Title: Graduate Student

Date Initiated: _____ Date Concluded: 1975

Sponsor / Funding Agent: Brigham Young University

Descriptors:

Plastics

Instructional Devices

Purpose / Goals / Objectives of Activity:

The purpose of this field project was to design and construct an economical, non-commercial, shop-made plastics vacuum forming machine large enough to accept 24" x 24" sheet plastic. The machine is compact, but versatile, is mobile, has the capacity to accommodate two types of forming molds, and the ability to vacuum form as well as accomplish blow forming. It is self-contained except for connections to electrical power and an air supply.

This project demonstrates that the construction of such a vacuum forming machine is within the feasibility of most school shops and at a greatly reduced price when compared to the commercial units currently on the market. This particular machine will be for student instruction in the department of Theatre and Cinematic Arts at Brigham Young University.

Progress to Date:

Progress to Date (continued):

Plans For the Future:

Project Publications:

Masters Thesis or Field Project

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: _____

through Brigham Young University Library - Harold B. Lee Library

Person to Contact Donald K. Nelson Office Phone 374-1211 ext. 2905

Address 3080 HBLL, Brigham Young University

Provo, Utah 84602

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity House Framing - Individualized Learning Units

Department / Division Industrial Education

Institution / Organization Brigham Young University

City, State Provo, Utah Zip Code 84602

Director(s) of Activity Jerry D. Grover Title

Date Initiated Date Concluded 1974

Sponsor / Funding Agent Brigham Young University

Descriptors: Undergraduate Program

Course Unit Junior College

Construction Individualized Instruction

Purpose / Goals / Objectives of Activity:

This project was to develop a more complete program of instruction for the students at the junior college level in the Building Construction field.

Progress to Date:

The selected instructional units in each of twelve sections included only basic and fundamental operations common to the specific branch of carpentry work--rough house framing. Each step involved in the actual performance of an operation necessary for the project was fully described and illustrated with line drawings. Additional reading references were provided.

Progress to Date (continued):

completed

Plans For the Future:

open

Project Publications:

Masters thesis or field project

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: _____

through Brigham Young University Library - Harold B. Lee Library

Person to Contact Donald K. Nelson Office Phone 374-1211 ext. 2905

Address 3080 HBLL, Brigham Young University

Provo, Utah 84602

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Implementation of an upper-level Industrial Arts Degree

Department / Division: Department Industrial Ed - School of Applied Science

Institution / Organization: Texas Eastern University

City, State: Tyler, Texas Zip Code: 75701

Director(s) of Activity: Dr. W. Clayton Allen, Chairman of Dept.; Dr. W. A. Mayfield, Title: Dean of School

Date Initiated: Fall '77 Date Concluded: N/A

Sponsor / Funding Agent: N/A

Descriptors:

Undergraduate Programs
Curriculum Models
Innovative Programs
Program Planning
Curriculum Development

Purpose / Goals / Objectives of Activity:

The Department of Industrial Education at Texas Eastern University was implemented in the Fall 1977. The department offers three degrees which are designed to serve the needs of technical and vocational students. The purpose of the industrial program is to prepare individuals for professional positions in industry and education. Students may pursue Industrial Arts under the Bachelor of Science degree in Industrial Education. The program is innovative in that it is an upper-level program (junior and senior level) which represents articulation between the junior/community colleges and senior college. It also implements cluster concept and places emphasis on relevance in industrial arts.

Progress to Date:

The Department of Industrial Education and the Bachelor of Science degree in Industrial Education were implemented in the fall of 1977.

Progress to Date (continued):

Plans For the Future:

Project Publications:

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Brochure and curriculum model, no charge

Person to Contact Dr. W. Clayton Allen Office Phone 214/566-1471

Address Dept. of Industrial Education, Texas Eastern University
3900 University Blvd. Tyler, Texas 75701

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Integrated Industrial Studies

Department / Division Industrial Technical Education

Institution / Organization Arizona State University

City, State Tempe, Arizona Zip Code 85281

Director(s) of Activity Dr. L.J. Pardini Title Associate Prof.
Mr. Tom Watkins Assistant Prof.

Date Initiated September, 1972 Date Concluded Ongoing

Sponsor / Funding Agent None

Descriptors:

Manufacturing (Mass Production)

Management

Metals

Woods

Purpose / Goals / Objectives of Activity:

To provide an educational setting within which students can exercise their capacity to solve problems related to that body of knowledge called "industry". Students are organized into small groups (4-6) to design and mass produce an article complete with jigs, fixture and all required production management documents. This program operates at the teacher training level with the objective of transporting the philosophy and methodology to the secondary schools (9-12).

Progress to Date:

The program is meeting the objectives. The first graduates are currently teaching in the public schools. Minor changes are being made as the program progresses.

Progress to Date (continued):

Plans For the Future:

Evaluate transportability to the secondary schools and revise the program as necessary.

Project Publications:

None.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Complete program description

Person to Contact L.J. Pardini
Tom Watkins Office Phone (602)965-3214

Address Division of Technology, Arizona State University

Tempe, Arizona 85281

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity A MERGER - AMERICAN INDUSTRY & OCCUPATIONAL VERSATILITY PROJECTS

Department / Division Industrial Education/Technology

Institution / Organization Arizona State University

City, State Tempe, AZ Zip Code 85281

Director(s) of Activity Dr. Lou Pardini Title Assoc. Professor, ASU
Mr. John Lavender Director, O.V.

Date Initiated Summer 1977 Date Concluded

Sponsor / Funding Agent Applying for Vocational Funding

Descriptors:

Curriculum Development

Junior High School

Purpose / Goals / Objectives of Activity:

To combine the attributes of student directed learning of the Occupational Versatility project with the organization, operation, and management of an industry (American Industry) developed by Stout State University.

Progress to Date:

An outline of a guide for the program development.

A first draft of a proposal for discretionary vocational funding.

Progress to Date (continued):

Plans For the Future:

Dependent upon success of funding proposal.

Project Publications:

"A Merger - A Discipline & a Method"

Man/Society/Technology February 1978

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: when developed

Person to Contact John Lavender Office Phone 602-965-7410

Address Division of Technology, Arizona State University, Tempe, AZ 85281

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Student Teaching Seminar

Department / Division Industry and Technology/Teacher Education

Institution / Organization Northern Illinois University

City, State DeKalb, IL Zip Code 60115

Director(s) of Activity Dr. Gary E. Lintereur Title Assis. Prof.
Dr. Conard L. White Assoc. Prof.

Date Initiated Fall, 1977 Date Concluded Ongoing

Sponsor / Funding Agent Student Teaching Department/Northern Illinois University

Descriptors:

Student Teaching

Purpose / Goals / Objectives of Activity:

This seminar is conducted at the Lorado Taft Field Campus for a period of two days where the students and teachers stay overnight.

Objectives:

1. Our students are required to student teach for a full semester one half day for five days. At the mid-term we get together at the field campus to discuss common problems of student teachers.
2. Foster a feeling of"professionalism" among the students by having them interact with each other and a number of faculty members on an informal basis.
3. The students are involved in a number of group cohesiveness activities in the out of doors which we later relate to in a "sensitivity session" to help them become aware of the needs and feelings of students as well as their peers.

We have invited a sister institution to join us in the two day experience which has been most beneficial to both institutions.

Objectives:

1. Students develop professional relationships with students from other institutions.
2. Students from each institution pair up for outdoor activities which leads to a cross pollination of ideas, philosophies, methods, laboratory facilities, etc.
3. Instructors also meet on an informal basis which fosters communications between institutions.

We have our student teachers evaluate their total student teaching experience and there is a consensus among their responses that this is a highlight in their student teaching experience. Being in a relaxed outdoor atmosphere, the students see each other in a different light as well as their instructors.

Progress to Date (continued):

Plans For the Future:

We plan to continue this experience with other teacher education institutions, not only in the state but also neighboring teacher education institutions.

Project Publications:

Available Information:

Information is available upon written request: ☐ YES ☐ NO

If yes, type of information and cost: _____

_____

_____

Person to Contact Dr. Gary E. Lintereur
~~Dr. Conard L. White~~ Office Phone 815-753-0516

Address Department of Industry and Technology, 110 Still Hall

DeKalb, IL 60115

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Energy Efficient Construction Planning and Design Faculty In-Service Course

Department / Division Department of Industrial Education and Technology

Institution / Organization Central Michigan University

City, State Mt. Pleasant, Michigan Zip Code 48859

Director(s) of Activity Dr. John G. Nee, Dr. Louis G. Ecker Title Assoc. Prof., Professor

Date Initiated October 15, 1977 Date Concluded September 15, 1978

Sponsor / Funding Agent United States Department of Energy

Descriptors:

Construction

Program Planning

In-Service Education

Faculty

Solar Power

Purpose / Goals / Objectives of Activity:

The inclusion of concepts dealing with energy usage and conservation in the construction occupations is critical, especially in view of the existing energy shortage and environmental considerations that are becoming a major concern to all Americans. The proposed course is the only known state-wide activity to provide secondary and post-secondary construction occupations teachers with technical skills and knowledge necessary to up-date their own curriculum.

Progress to Date:

The project staff has detailed technical content for each area which emphasizes energy conservation and the environment. The detailed content related to construction occupations as specified by an advisory committee. The staff will identify and develop all appropriate components of course content which will be delivered during a six-week in-service course to be conducted during the summer of 1978.

Progress to Date (continued):

Plans For the Future:

Continued in-service activity based on additional funding for 1978-79.

Project Publications:

None to date, but first major report will be available during November, 1978.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Proposal is available for duplicating cost of $2.00 each.

Person to Contact Dr. John G. Nee Office Phone (517) 774-3996

Address 202 Wightman Hall

Central Michigan University

Mt. Pleasant, MI 48859

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: The Development of Instructional Experiences in Computer Graphics

Department / Division: Industrial Education & Technology Department

Institution / Organization: Western Illinois University

City, State: Macomb, Illinois Zip Code: 61455

Director(s) of Activity: Dr. Ralph Dirksen Title: Assoc. Professor

Date Initiated: 1973 Date Concluded: Continuing

Sponsor / Funding Agent:

Descriptors:

Courses to Study

Design

Curriculum Development

Automation

Higher Education

Purpose / Goals / Objectives of Activity:

To define the curriculum area of computer graphics (automated drafting)
To develop teaching resources for computer graphics
To explore the occupational competencies required of drafters employed with involvement in computer graphics.

Progress to Date:

Considerable development of teaching resources has been completed to date.

Progress to Date (continued):

Plans For the Future:

Continued development and updating of teaching materials for this rapidly expanding technology is planned.

Project Publications:

No publications in outside sources.

Available Information:

Information is available upon written request: [x] YES [ ] NO

If yes, type of information and cost: literature survey, bibliographies, curricular outline, misc. literature and teaching materials available at cost.

Person to Contact Dr. Ralph Dirksen Office Phone (309) 298-1860

Address Industrial Education & Technology Dept., Western Illinois University, Macomb, Illinois 61455

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity "Aircraft Construction Workshop"

Department / Division Department of Industrial Education

Institution / Organization Eastern Michigan University

City, State Ypsilanti, Michigan Zip Code 48197

Director(s) of Activity Alfred Roth Title Assistant Professor

Date Initiated June 28, 1976 Date Concluded August 6, 1976

Sponsor / Funding Agent Wolverine Aviation, Willow Run Airport, Ypsilanti, MI.48197

Descriptors:

Aeronautics and Aerospace

Program Planning

Innovative Programs

Faculty

Graduate Programs

Purpose / Goals / Objectives of Activity:

Purpose:
1. To provide Industrial Arts and Vocational Education teachers with the actual experience of building a full sized, flyable airplane.
2. To show how a cooperative experience such as building an airplane integrates knowledge and skills of every participating student and interrelates each student with the final product.
3. To show how constructing an airplane provides a nucleus for teaching many productive skills in a more meaningful and exciting way.

Goals:
1. To encourage teachers to seek more motivating and meaningful ways to teach students about materials and manufacturing.
2. To encourage teachers to involve their classes in multi-activity, cooperative projects.
3. To encourage teachers to introduce activities in their schools which, while being highly educational, attracts favorable attention of the school and community.

Objectives:
1. To teach the fundamentals of aircraft construction.
2. To develop an appreciation for good workmanship and cooperation.
3. To generate a new enthusiasm for teaching.

Progress to Date (continued):

The workshop was highly successful and the airplane was completed, inspected, and flew its maiden flight August 29, 1977. The workshop has generated a great deal of interest and publicity and we now have potential sponsors for future similar workshops.

Plans For the Future:

Plans for the future are to have additional workshops similar to this one.

Project Publications:

Local newspaper coverage, i.e., Ann Arbor News, Ypsilanti Press, E.A.A. Sport Aviation, Project Schoolflight Newsletter.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost:

Letters will be answered at no charge.

Person to Contact Al Roth Office Phone (313) 487-4330

Address Dept. of Industrial Education

Eastern Michigan University

Upsilanti, Mich. 48197

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Computer Graphics

Department / Division: Industrial Technology

Institution / Organization: University of Northern Iowa

City, State: Cedar Falls, IA 50613 Zip Code: 50613

Director(s) of Activity: Dr. Ron Bro Title: Professor

Date Initiated: 1976 Date Concluded:

Sponsor / Funding Agent: UNI Foundation

Descriptors:

Course of Study
Curriculum Development
Innovative Programs
Senior High School
Undergraduate Programs

Purpose / Goals / Objectives of Activity:

The major purpose was to develop a learning system to enable students to use the computer for drafting purposes. Objectives of the project were to:

1. From an available drafting software package written in FORTRAN, translate essential subroutines to BASIC language to form a data base for graphics.
2. Test the data base for accuracy of graphic performance on our H-P Plotter.
3. Develop a user's manual explaining the use of the hardware and software in the system.
4. Develop a scope and sequence of computer graphic instruction for inclusion in an existing graphics courses and in a new course to be developed.
5. Develop a course of study including resource list, learning activities and instructional manual.

Progress to Date:

The instructional manual has been developed. It contains the necessary information regarding operation of the hardware, and procedures for planning and processing data; and describes each of the computer drafting commands and routines in detail. This manual serves as the initial text for the instruction in computer graphics. The course of study or syllabus has also been developed. It consists of a series of student learning activities that were also developed. These activities designed to be self-instructional are sequenced in a "building block" fashion and take the student through a wide spectrum of computer drafting applications. Many forms of graphics can be plotted without prior drafting knowledge; however, knowledge of fundamental drafting procedures is prerequisite for advanced plotting activities.

Each student in the introductory course in Communications Technology encodes, processes, and plots a drawing using the computer system. A course in computer graphics is being offered each year. A workshop for teachers in computer graphics is also available during the summer sessions.

Progress to Date (continued):

Plans For the Future:

Development of additional software packages to facilitate use of the system for generating pictorial drawings and electronic diagrams. Work has already commenced on these projects.

Project Publications:

Summary of the project: "A Computer Does the Drawing," Centergram Department of Northern Iowa: University of Northern Iowa, Cedar Falls, Iowa. March, 1977) p. 13.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: A limited number of manuals and Syllabii. $5.00 each. Software listing, no charge. Available only to persons setting up computer graphics systems.

Person to Contact Ken Cox Office Phone 319/273-2828

Address Academic Computing Services

University of Northern Iowa, Cedar Falls, IA 50613

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN
INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Automotives Laboratory Manual

Department / Division: Industrial Technology Dept.

Institution / Organization: Ohio University

City, State: Athens, Ohio Zip Code: 45701

Director(s) of Activity: Dr. Howard I. Shull Title: Prof.

Date Initiated: 1976 Date Concluded: 1977

Sponsor / Funding Agent: None

Descriptors:

Higher Education

Curriculum Development (Revision)

Undergraduate Programs

General Laboratory

Land Transportation (Auto)

Purpose / Goals / Objectives of Activity:

Revision of Instruction and Job Sheets for Automotive Laboratory Manual.

Progress to Date:

Completed.
Available from College Book Store and
Logan's Book Store
Athens, Ohio 45701

Progress to Date (continued):

Completed

Plans For the Future:

For use in University classes

Project Publications:

Laboratory Manual

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: College Bookstore

Logan's Book Store Athens, Ohio 45701

Person to Contact Dr. Howard I. Shull Office Phone 594-5030

Address 36 Briarwood Dr. Athens, Ohio 45701

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity A Comparison of Approaches in Teaching Problem Solving Concepts: The Sketched Versus The Modeled Problem

Department / Division Industrial Arts Education

Institution / Organization University of Maryland

City, State College Park, Maryland Zip Code 20742

Director(s) of Activity Davies, Roger N. Title Grad. Ass't.

Date Initiated June 76 Date Concluded April 78

Sponsor / Funding Agent n/a

Descriptors:

Behavioral Objectives
Research
Psychology
General Education
Undergraduate Programs

Purpose / Goals / Objectives of Activity:

This study was concerned with selected approaches toward teaching problem solving concepts. Specifically, the investigation was designed to determine whether modeled problems or sketched problems were more beneficial to the student in learning problem solving.

Progress to Date:

During the fall semester, 1977, selected college level classes were administered the Sholstrom Personal Orientation Inventory Test (1974) and an instrument (attitude) of the investigators design. A program, based on suggestions in lateral thinking by Dr. Edward deBono, was presented in ten (10) mini-sessions. Identical instruments were employed at both pretest and posttest. At the conclusion of the program, data, including the POI Test results and the attitude instrument test results were collected. Standard statistical methods were used to ascertain whether a significant difference existed between the mean gain scores of grouped subjects in answer to stated hypotheses. The hypotheses were concerned with the improved understanding and attitude related to problem solving.

Progress to Date (continued):

A summary of conclusions of this study inferred that neither the modeled nor the sketched approaches to the study's selected problems were in any way effective in terms of subject attitude toward selected problems as measured by the selected attitude instrument. Likewise, the study inferred that no changes in self-assessment had taken place as measured by the POI test.

Plans For the Future:

Studies of this nature need a longer time plan for true inferral or implication, rather than a short term, general experience. A study of a longer duration was suggested.

Project Publications:

The review of literature provided some worthy research into the placing of problem solving in the area of general education. This portion of the study is being prepared for publication.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Copies of this study are available at $20.00 per issue.

Person to Contact Roger N. Davies Office Phone 301/454/4264 301/459-1335

Address Dept. of Ind. Ed., U of Md at College Park 20742

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Polymer Technology - Competency Based "Program Outline and Study Guide"

Department / Division Department of Industrial Arts & Technology

Institution / Organization State University College

City, State Oswego, New York Zip Code 13126

Director(s) of Activity William Waite Title Instructor

Date Initiated July 1977 Date Concluded Sept. 1977

Sponsor / Funding Agent None

Descriptors:

Plastics
Course of Study
Competency Based
Higher Education
Material Processing Systems

Purpose / Goals / Objectives of Activity:

This "Program Outline and Student Guide" is the heart of a competency-based teacher education course in Polymer Technology for future Industrial Arts teachers. It is a basic laboratory, three semester hours in length.

Progress to Date:

The curriculum is entirely developed into a competency based format consisting of seventeen modules. They are:

Module 1 - Introduction and History
Module 2 - Major Resins: Lab Analysis
Module 3 - Injection Molding
Module 4 - Laminating
Module 5 - Plastisol Molding
Module 6 - Thermoforming
Module 7 - Casting
Module 8 - Plastic Reinforced Molding
Module 9 - Powder Molding and Coating
Module 10 - Chemistry
Module 11 - Moldmaking
Module 12 - Compression and Transfer

Progress to Date (continued):

Module 13 - Fabrication
Module 14 - Blow Molding
Module 15 - Foam Molding
Module 16 - Extrusion
Module 17 - Course Organization Book

Each module contains specific goals, tasks, and criteria for evaluation. The document is 33 pages long.

Plans For the Future:

The program has proved successful and will be used for future courses. Slight revision and updating of modules will be accomplished on a yearly basis.

Project Publications:

Pending

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Copy of program available at $3.00

Person to Contact William Waite Office Phone 315/341-3144

Address State University College, Department of Industrial Arts and Technology, Oswego, New York 13126

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Industrial Arts Program ReRegistration for State University College at Buffalo

Department / Division: Industrial Arts and Vocational Education

Institution / Organization: State University College at Buffalo

City, State: Buffalo, New York Zip Code: 14222

Director(s) of Activity: Brooks Brueckman Mongerson Stewart Title:

Date Initiated: 12/77 Date Concluded: 2/79

Sponsor / Funding Agent: None

Descriptors:

Curriculum Development (Revision)
Behavioral Objectives
Competemcy Based
Undergraduate Programs
Curriculum Models

Purpose / Goals / Objectives of Activity:

To develop, implement and evaluate a comprehensive undergraduate industrial arts teacher education program in the competency/performance based mode.

Progress to Date:

1. A Faculty leadership team has been identified and is meeting.

2. A consortium group, - public school administrators, public school teachers, college students, bargaining agency representatives and college staff - has been identified and is meeting.

3. A college staff, facilitator group has been identified and informed of their responsibilities in the development of materials for re-registration.

4. A release day workshop has been held at which time the entire Industrial Arts program faculty was directed through the formats for the identification of the skills, knowledges and attitudes as well as the instructional strategies, and the assignment procedures, conditions and criteria for the present undergraduate program.

Progress to Date (continued):

Plans For the Future:

1. Develop a bank of skills, knowledges, and attitudes (SKA's) for each technical and professional course.

2. Develop instructional modules for each technical and professional curriculum area.

3. Edit SKA's and assessment materials for each area of the undergraduate program 6/78.

4. Field test materials developed for the reregistration program, 9-12-78.

Project Publications:

5. Revise and relist materials, 1-14-79.

None to Date

6. Approval sequence - department, college, university and state education department (10/79 to 1/80).

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Instructional materials and formats for faculty participation and progress evaluation.

Person to Contact Dr.J.C. Brueckman, Jr. Office Phone (716) 862-6018

Address 59 Treehaven Road

West Seneca, New York 14224 (716) 674-5295

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity: Practicum for Beginning Industrial Arts Teachers

Department / Division: Industrial Arts Department

Institution / Organization: Virginia State College

City, State: Petersburg, VA. Zip Code: 23803

Director(s) of Activity: Dr. Arvid Van Dyke Title:

Date Initiated: July 1977 Date Concluded: June 1978

Sponsor / Funding Agent: Va. Industrial Arts Teacher Education Council

Descriptors:

Undergraduate Programs

Curriculum Development

Supervision

Inservice Education

Follow-up

Purpose / Goals / Objectives of Activity:

1. Identify new teachers in the state and establish rapport and contact with them.
2. Provide resources, follow-up assistance to teachers after they begin teaching.
3. Give teachers and seminar leaders the climate for open discussion and sharing.
4. Help teachers solve problems of classroom/laboratory management, planning instruction, laboratory upkeep.

Progress to Date:

Virginia Industrial Arts Teacher Education Council devised the plan and prepared four modules of seminar content/format. Regional seminars were established by colleges with seminar leader. After seminars started the teachers were visited by interested supervisor and were encouraged to visit other experienced teachers in other schools. Seminars are in final stages with each meeting at least five times during the teachers first year.

Progress to Date (continued):

Plans For the Future:

This course syllabus provides Seminar Leaders the basic content for six seminars. In the future the content needs to be very flexible so that leaders bring resource persons and materials to help teachers with their expressed needs rather than packaged needs planned for ahead of time.

Project Publications:

Seminar syllabus: Practicum for beginning Industrial Arts Teachers

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: $2.00

Person to Contact Dr. Arvid Van Dyke Office Phone (804) 520-5433

Address Box 261, Industrial Arts, Virginia State College

Petersburg, Va. 23803

OR-78-132

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Evaluation in Manufacturing; Product Development and Product

Department / Division Industrial Arts Education

Institution / Organization Cal. State University - Long Beach

City, State Long Beach, Calif. **Zip Code** 90720

Director(s) of Activity Dr. P.E. Powell **Title** Prof., I.E.

Date Initiated Feb. 1978 **Date Concluded** Approx. Jan. 1979

Sponsor / Funding Agent None

Descriptors:

Achievement

Manufacturing

Course Unit

Evaluation - Student

Unit Laboratory

Purpose / Goals / Objectives of Activity:

To enable college professors to evaluate students in Manufacturing classes. Three areas of work are involved: product conception and construction, management activities, and production work.

The present study is being carried on by graduate students under the direction of a graduate adviser. The study will result in three masters theses. Two of the three thesis studies are underway.

A survey is being conducted to determine methods and devices now being used. From that one method will be developed; devices will be prepared; the methods and devices will be used in classes; and, a report will be prepared in which conclusions will be drawn about the evaluation.

Progress to Date:

A pilot study is underway to determine in which colleges and universities Manufacturing is being taught in departments of industrial arts teacher education. Questionnaires mailed to 207 departments identified from the ACIATE Directory. After the population has been identified a questionnaire will be sent making inquiry about evaluation of college level students as they: develop product ideas, construct product prototypes and as they produce the product. A third area of evaluation will be studied at a later date: that of evaluation of student management personnel as they carry out the planning for production.

The investigators are now reviewing the literature in the area of evaluation in manufacturing and interviewing management personnel of various industries to obtain information concerning evaluation of management personnel and employees.

Progress to Date (continued):

Plans For the Future:

1. After identifying the population a questionnaire will be directed to that population for assistance in determining methods and devices in use.
2. From a review of the literature, the interviews with industrial management personnel, and the results of the questionnaire, a method and a device for evaluation will be developed.
3. The method and device will be tested in the classroom/laboratory.
4. A method and a device (or devices) will be developed for use.

Project Publications:

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: _____

_____

_____

Person to Contact Dr. P.E. Powell Office Phone _____

Address Ind. Ed. Dept., Cal. State Univ. at Long Beach

Long Beach, Calif. 90840

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity ELECTRONICS COMPUTER INSTRUCTION PROGRAM

Department / Division Industrial Arts & Technology

Institution / Organization University of Northern Colorado

City, State Greeley, Colorado **Zip Code** 80639

Director(s) of Activity D.L. Jelden **Title** Professor

Date Initiated December 1975 **Date Concluded** Spring 1980

Sponsor / Funding Agent Partial - University Research Committee

Descriptors:

Instructional Materials (Media

Electricity/Electronics

Individualized Instruction

Computer

Purpose / Goals / Objectives of Activity:

To determine the effectiveness of CAI in learning electronics.
To study the limits and restrictions of a microprocessor as an interactive instructional tool.

Progress to Date:

1. System is designed and operational.
2. 65 interactive instructional lessons have been written and are operational.
3. Classroom usage is in progress and humanistic data being collected until June 1980.
4. Preliminary findings on hardware and program development are available on request on a cost only basis (approximately 50 pages).

Progress to Date (continued):

Plans For the Future:

Continual use and refinement of the system. Also attempts will be made to expand it into other areas and operations.

Project Publications:

Two previous dissertations directly related to topic. Available from University Microfilms or University of Northern Colorado library.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Abstracts or microfiche costs

Person to Contact D.L. Jelden Office Phone 303/351-2186

Address Department of Industrial Arts and Technology, University of Northern Colorado, Greeley, Colorado 80639

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Professional Course for Freshmen Industrial Teacher Education Students

Department / Division Industrial Education & Technology

Institution / Organization Ball State University

City, State Muncie, Indiana **Zip Code** 47306

Director(s) of Activity Dr. Richard Barella **Title** Assoc. Prof.

Date Initiated Winter Quarter '78-79 **Date Concluded** Ongoing

Sponsor / Funding Agent Department of Industrial Ed. & Tech.

Descriptors: Career Education; Professional Courses; Undergraduate Programs

Purpose / Goals / Objectives of Activity:

This freshman course attempts to:

1. Acquaint students with industrial education teaching as a career.
2. Help students understand industrial education in terms of types, levels, and goals of programs.
3. Help students to initiate a Professional Improvement Program (PIP) that will lead to self-directed learning and professional involvement.

Progress to Date:

Developed during the 1977-78 school year the course was first implemented during the Winter quarter, 1978-79.

The course involves students in classroom and school-based experiences in order to orient them to industrial education as a subject matter field and to the professional activities and responsibilities of teachers of industrial education.

The goals of the course are achieved through various teaching-learning activities including seminars, role playing, brainstorming, as well as, reports, lectures, and discussions. Students also gain first hand experiences by observing various industrial arts and industrial-vocational public school programs. A number of speakers are utilized such as public school teachers, teacher educators, and student teachers.

Progress to Date (continued):

Additionally, to develop the habit of lifelong learning, a segment of the course is devoted to helping students initiate a Professional Improvement Program. This program is student intiated and monitored throughout all courses in the professional sequence.

Plans For the Future:

Future plans include involving students in actual teaching situations with public school students. Further, emphasis on the Professional Improvement Program of the students should result in greater professional involvement. It is expected that students will become more involved in leadership activities (student clubs), participate at conferences, prepare displays, engage in more research, and write for publication.

Project Publications:

None at the present

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Course outlines-no cost

Person to Contact Dr. Richard Barella Office Phone 285-5077

Address Department of Industrial Education and Technology

Ball State University Muncie, IN 47306

OR-79-135

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity "Recycling Your Cluster"

Department / Division Department of Industrial Technology

Institution / Organization Ohio University

City, State Athens, Ohio **Zip Code** 45701

Director(s) of Activity William W. Reeves **Title** Asst. Professor

Date Initiated Spring 1978 **Date Concluded** Same

Sponsor / Funding Agent Southeastern Ohio Industrial Arts Association

Descriptors:

Course Unit

Undergraduate Programs

Manufacturing (Mass Production)

Problem Solving

Purpose / Goals / Objectives of Activity:

To develop a project which would encompass activities in a variety of Industrial studies.

To use only scrap materials for this project.

To develop all necessary machinery and tools, deemed not to be found in the "typical" industrial arts laboratory, necessary for project production.

Progress to Date:

The project, a desk-night light, has been designed and tooled. It involves the following areas of study.

1. Woodworking
2. Metals Fabrication
3. Plastics
4. Electricity, and
5. Graphics

Upon completion of design and tooling a group of students ran a line-production of the project and made a presentation to the annual Drive-In conference sponsored by the Southeastern Ohio Industrial Arts Association.

Progress to Date (continued):

Plans For the Future:

When the Industrial Technology Department at Ohio University decided to initiate a planned general shop course, this project will be used in the laboratory phase of that course.

Project Publications:

A position paper describing the project, it's philosophical basis and drawings was published by The Ohio University press and disseminated to all secondary school members of the Southeastern Ohio Industrial Arts Association.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: The paper described is available at a copying cost of $.50 for 10 pages.

Person to Contact William W. Reeves Office Phone (614) 594-5300

Address Department of Industrial Technology, Ohio University

Athens, Ohio 45701

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity "Integration of Plastics Processes For School Laboratory Projects"

Department / Division Department of Industrial Technology

Institution / Organization Ohio University

City, State Athens, Ohio **Zip Code** 45701

Director(s) of Activity William W. Reeves **Title** Asst. Professor

Date Initiated Fall 1975 **Date Concluded** Continuing

Sponsor / Funding Agent

Descriptors:

Plastics

Course of Study

Purpose / Goals / Objectives of Activity:

To develop continuity of activities in the typical beginning plastics courses of study.

To design and tool projects which involve a group of processes to produce an end product.

Progress to Date:

To date, two projects have been designed and tooled to reach these goals: A Desk Organizer and A Rotary Index File.

The desk organizer is a combination note and pencil holder. To produce the desk organizer the student must be able to perform six basic operations:

1. Injection Molding
2. Thermoforming
3. Foam Casting
4. Fiberglassing
5. Adhesive Cementing, and
6. Assembly with Mechanican Fasteners

Progress to Date (continued):

The rotary index file, similarly, encompasses a group of processes necessary to produce a caddy for holding calling and message cards. These processes are:

1. Fiberglassing
2. Injection Molding
3. Thermoforming
4. Compression Molding
5. Extrusion, and
6. Solvent cementing

Plans For the Future:

The integration activity to date has been highly successful. Future plans call for the refinement of the existing designs and the tooling of an ice chest which has been designed for similar use in the laboratory phase of course work.

Project Publications:

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Drawings and tooling suggestions for the desk organizer. $.75 copying cost, 15 pages.

Person to Contact William W. Reeves Office Phone (614) 594-5300

Address Dept. of Industrial Technology, Ohio University, Athens, Ohio 45701

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Project Revise

Department / Division Department of Education

Institution / Organization Washington State University

City, State Pullman, Washington **Zip Code** 99164

Director(s) of Activity Dr. Ron Murphy **Title** Assist. Prof.

Date Initiated June 1978 **Date Concluded** June 1981

Sponsor / Funding Agent Bureau of Education for the Handicapped

Descriptors:

Higher education

Curriculum Models

Competencies

Exceptional children

Competency based

Purpose / Goals / Objectives of Activity:

Purpose: to prepare special and industrial teachers to more effectively teach handicapped students.

Goals: to develop a model program at the college level.

Objectives and Activities: to establish a system that will allow infusion of competencies into existing courses and while remaining identified competencies are taught in new courses.

Progress to Date:

Project "Revise" (Relevant Elements of Vocational Industrial Special Education) is in its first year of developing new courses and first year infusing competencies into existing courses in: 1) the regular education sequences, 2) the professional courses in industrial education, vocational agriculture and home and family life courses.

Project staff are also collecting and revising resource materials to provide current materials to assist teachers in the field.

Progress to Date (continued):

Plans For the Future:

Once the model teacher training program and the process of implementation are completed we plan to disseminate to other teacher education institution those macerials and strategies that can be transported.

Project Publications:

None at present

Available Information:

Information is available upon written request: ☐ YES ☒ NO

If yes, type of information and cost: None at present time

Person to Contact Dr. Ron Murphy Office Phone 335-5375

Address Department of Education, Cleveland Hall

Washington State University Pullman, Washington 99164

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity PICA Graphic Arts Curriculum

Department / Division Industrial Education

Institution / Organization Clemson University

City, State Clemson, South Carolina **Zip Code** 29631

Director(s) of Activity Dr. J. Page Crouch **Title** Professor

Date Initiated August 1978 **Date Concluded**

Sponsor / Funding Agent PICA Industry (Foundation)

Descriptors:

Individualized Instruction
Curriculum Development
Audio-Visual
Manipulative
Competency Based

Purpose / Goals / Objectives of Activity:

The materials developed will supplement the existing PICA curriculum in areas of graphic arts, photography, copy preparation and screen printing.

Progress to Date:

Scripting and production activities are on schedule and will be available by August, 1979.

Progress to Date (continued):

Plans For the Future:

Evaluation currently in progress will identify future curriculum development tasks.

Project Publications:

Graphic Curriculum Education Program (2 volume Guide)
58 Sound slide programs
44 Learning Activity Packages
Exploring Graphic Curriculum (Guide)
Specific titles available on request.

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost:

Literature describing total curriculum is free.

Individual modules - $60.00 Total Learning System - $2,900

Person to Contact Mr. Bill Treadaway, Exec. Vice President **Office Phone** (704) 334-6444

Address %The Printing Industry of the Carolinas

P.O. Box 4487, Charlotte, North Carolina 28204

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Teaching Materials for Manufacturing

Department / Division Department of Industrial Education and Technology

Institution / Organization Ball State University

City, State Muncie, Indiana **Zip Code** 47306

Director(s) of Activity Dr. Thomas Wright, Professor
Dr. Donald F. Smith **Title** Assoc. Prof.

Date Initiated 9/1/71 **Date Concluded** On going

Sponsor / Funding Agent None

Descriptors:

Management

Undergraduate Programs

Audio-Visual

Manufacturing

Purpose / Goals / Objectives of Activity:

Since the early 70's an effort has been made at Ball State University to develop a wide variety of teaching materials to assist those teaching manufacturing. The particular objective has been to develop audio-visual materials to assist in teaching the concepts of (1) industry, (2) manufacturing, and (3) management--its levels of authority, functions, and areas of activity.

Progress to Date:

The following materials have been developed to date:

1. Manufacturing Transparency master set
2. What is Industry? slide series
3. Management slide series
4. Manufacturing slide series
5. Research and Development slide series
6. Production slide series
7. Marketing slide series
8. Industrial Relations slide series
9. Financial Affairs slide series
10. Obtaining Mangerial Approval for Developed Products filmstrip
11. What's in a Name (Trademark development) slide series
12. Developing a marketing system slide series

Progress to Date (continued):

Plans For the Future:

Revise selected slide series
Develop a slide series on tooling design
Develop a slide series on inspection gage design

Project Publications:

Manufacturing Transparency Masters - $6.00 per set of 62
Obtaining managerial approval for developed products - Filmstrip

Slide series reproductions (prices range from $10.00 - $23.00)

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: General descriptive

Person to Contact Thomas Wright Office Phone (317) 285-6863

Address Department of Industrial Education and Technology

Ball State University Muncie, Indiana 47306

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Small Engines Slide Tape Series

Department / Division Industrial Arts

Institution / Organization University of Georgie

City, State Athens, Georgia **Zip Code** 30602

Director(s) of Activity Stephen R. Matt, Asst. Professor
George Anthony **Title** Student

Date Initiated Nov. '78 **Date Concluded**

Sponsor / Funding Agent American Association for Vocational Instructional Materials

Descriptors:

Audio-Visual
Course of Study
Power Systems
Senior High School
Servicing

Purpose / Goals / Objectives of Activity:

Prepare script for audio tapes which will accompany slides found in "Small Engines" Vol. 1 and 2 produced by American Association For Vocational Instructional Materials.

Progress to Date:

Writing is completed and preparation of tapes is about to begin.

Progress to Date (continued):

Plans For the Future:

Prepare workbook to accompany the program.

Project Publications:

"Small Engines" Vol. 1 and 2

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: _____

_____

_____

Person to Contact Howard Turner Office Phone 404/542-2586

Address AAVIM, 120 Engineering Center, University of Georgia

Athens, Georgia 30602

OPERATION RESOURCE:
ABSTRACTS OF CURRENT CURRICULUM DEVELOPMENT ACTIVITIES IN INDUSTRIAL ARTS TEACHER EDUCATION

Title of Activity Production Systems

Department / Division School of Technology

Institution / Organization Eastern Illinois University

City, State Charleston, IL **Zip Code** 61920

Director(s) of Activity John R. Wright **Title** Assoc. Prof.

Date Initiated 1/1/76 **Date Concluded** N/A

Sponsor / Funding Agent None

Descriptors:

Problem Solving

Curriculum Models

Manufacturing

Innovative Programs

Engineering

Purpose / Goals / Objectives of Activity:

This course is designed to bring the "systems" together in a culminating problem solving situation using a manufacturing enterprise. A conceptual approach with multiple materials is used with concentration on public school application.

Progress to Date:

Tested and run three times at the college level. Application is beginning to show at the secondary school level.

Progress to Date (continued):

Plans For the Future:

Move in to electronic control and automation techniques which are low cost and practical for secondary school education.

Project Publications:

1) "Production Systems: A Culminating Experience" Man/Society/Technology March 1978
2) "Material Handling Systems" Manufacturing Forum, Sept. 1978

Available Information:

Information is available upon written request: [X] YES [ ] NO

If yes, type of information and cost: Course outline and final reports $2.00/ video tapes, pictures and slides on "loan only".

Person to Contact John R. Wright Office Phone 581-2721

Address School of Technology

Eastern Illinois University Charleston, IL 61920